Application No.: 10/516,469

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

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LISTING OF CLAIMS:

1. (original): A process for producing an optically active α -substituted aminoketone represented by formula (4):

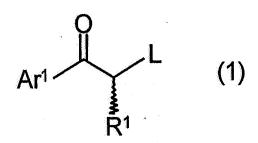
$$Ar^{1} \xrightarrow{R^{2}} \overset{H}{\underset{R^{2}}{\overset{*1}{\longrightarrow}}} Ar^{2}$$
 (4)

(wherein Ar^1 and Ar^2 each independently represent a substituted or unsubstituted C_6 - C_{15} aryl group, R^1 represents a C_1 - C_{12} alkyl or C_7 - C_{12} aralkyl group, R^2 represents a C_1 - C_{12} alkyl group, *1 and *2 each represent an asymmetric carbon atom) or an optically active α -substituted aminoketone salt represented by formula (5):

$$Ar^{1}$$
 R^{1}
 R^{2}
 R^{3}

(wherein Ar¹, Ar², R¹, R², *1, and *2 are the same as above, and A⁻ represents a counter anion), the process comprising the steps of:

reacting an α -substituted ketone represented by formula (1):



(wherein Ar¹ and R¹ are the same as above, and L represents a leaving group) with an optically active amine represented by formula (2):

$$H_2N$$
 $*^1$
 Ar^2
 R^2
(2)

(wherein Ar², R², and *1 are the same as above) to yield a mixture of diastereomers of an optically active α -substituted aminoketone represented by formula (3):

$$Ar^{1} \xrightarrow{R^{1}} Ar^{2}$$

$$R^{1} R^{2}$$
(3)

(wherein Ar¹, Ar², R¹, R², and *1 are the same as above); and

isolating one diastereomer from the mixture after optionally yielding salts of the diastereomers with an acid.

2. (original): The process according to claim 1, wherein L is a halogen atom.

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3. (original): The process according to claim 2, wherein the halogen atom is a chlorine atom or bromine atom.

4. (previously presented): The process according to claim 1 wherein Ar² is a phenyl

group or a p-methoxyphenyl group; and R² is a methyl group.

5. (previously presented): The process according to claim 1, wherein R¹ is a methyl

group or an ethyl group.

6. (previously presented): The process according to claim 1, wherein, in the step of

isolating the diastereomer from the mixture of the diastereomers of the optically active α -

substituted aminoketone represented by formula (3), a crystallization method, a chromatographic

method, or a distillation method is employed.

7. (previously presented): The process according to claim 1, wherein, in the step of

isolating the diastereomer from the mixture of the diastereomers of the optically active \alpha-

substituted aminoketone represented by formula (3), the salts of the diastereomers with the acid

are yielded, and the salt of one diastereomer is preferentially crystallized from a solvent.

8. (original): The process according to claim 7, wherein the acid is sulfonic acid.

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9. (original): The process according to claim 8, wherein the sulfonic acid is

methanesulfonic acid.

10. (previously presented): The process according to claim 7, wherein the solvent is at

least one selected from the group consisting of ester solvents, ether solvents, ketone solvents,

halogenated solvents, alcohol solvents, hydrocarbon solvents, nitrile solvents, and water.

11. (previously presented): The process according to claim 7, wherein the solvent is

ethyl acetate, acetone, or dimethoxyethane.

12. (previously presented): The process according to claim 1, wherein, in formula (4) or

(5), the absolute configuration at *2 is S and the absolute configuration at *1 is R; or the absolute

configuration at *2 is R and the absolute configuration at *1 is S.

13. (original): The process according to claim 7, wherein the acid is hydrogen halide.

14. (original): The process according to claim 13, wherein the hydrogen halide is

hydrogen chloride or hydrogen bromide.

15. (previously presented): The process according to claim 7, wherein the solvent is an

alcohol solvent or water.

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16. (**previously presented**): The process according to claim 7, wherein the solvent is ethanol or a mixture of ethanol and water.

17. (previously presented): The process according to claim 13, wherein, in formula (4) or (5), the absolute configuration at *2 is R and the absolute configuration at *1 is R; or the absolute configuration at *2 is S and the absolute configuration at *1 is S.

18. (previously presented): A process for producing an optically active β -substituted amino alcohol represented by formula (6) or a salt thereof:

(wherein Ar^1 , Ar^2 , R^1 , R^2 , *1, and *2 are the same as in formula (4) of claim 1, and *3 represents an asymmetric carbon atom), comprising a step of stereoselectively reducing an optically active α -substituted aminoketone represented by formula (4) of claim 1 produced by the process of claim 1 or an optically active α -substituted aminoketone salt represented by formula (5) of claim 1 produced by the process of claim 1.

19. (previously presented): The process according to claim 18, wherein the step of stereoselectively reducing comprises selectively reducing an anti-isomer using a boron compound in methanol, ethanol, or a mixture of ethanol and water.

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20. (**original**): The process according to claim 19, wherein the boron compound is sodium borohydride.

21. (previously presented): The process according to claim 18, wherein, in formula (6), the absolute configuration at *2 is S, the absolute configuration at *1 is R, and the absolute configuration at *3 is R; or the absolute configuration at *2 is R, the absolute configuration at *1 is R, and the absolute configuration at *3 is S; or the absolute configuration at *2 is R, the absolute configuration at *1 is S, and the absolute configuration at *3 is S; or the absolute configuration at *3 is S; or the absolute configuration at *3 is S.

22. - 70. (canceled).

71. (previously presented): A process for producing an optically active α -substituted aminoketone represented by formula (4):

$$Ar^{1} \xrightarrow{R^{2}} \begin{array}{c} X^{2} & X^{1} & Ar^{2} \\ & & &$$

(wherein Ar^1 and Ar^2 each independently represent a substituted or unsubstituted C_6 - C_{15} aryl group, R^1 represents a C_1 - C_{12} alkyl or C_7 - C_{12} aralkyl group, R^2 represents a C_1 - C_{12} alkyl group, *1 and *2 each represent an asymmetric carbon atom) or an optically active α -substituted aminoketone salt represented by formula (5):

$$Ar^{1}$$
 R^{1}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{2}
 R^{3}
 R^{2}
 R^{3}
 R^{2}

(wherein Ar¹, Ar², R¹, R², *1, and *2 are the same as above, and A represents a counter anion), the process comprising the step of:

isolating one diastereomer from the mixture of diastereomers of an optically active α substituted aminoketone represented by formula (3):

$$Ar^{1} \xrightarrow{\qquad \qquad \qquad } H \xrightarrow{*1} Ar^{2}$$

$$R^{1} \quad R^{2}$$
(3)

(wherein Ar¹, Ar², R¹, R², and *1 are the same as above) after optionally yielding salts of the diestereomers with an acid.